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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,364	08/01/2000	R. Lawrence Ives	CALA-073100	6104
24346	7590	03/11/2004	EXAMINER	
Jay A. Chesavage 3833 Middlefield Rd. Palo Alto, CA 94303			LEE, BENNY T	
			ART UNIT	PAPER NUMBER

2817

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

☐ This application has been examined ☒ Responsive to communication filed on 16 Dec 2003 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s),        days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |                                                                                     |                                                                                 |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892.        | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.             | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____                                               |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-15, 21-37 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☒ Claims 1-7 are allowed.
4. ☒ Claims 8, 12, 14, 25, 27-34 are rejected.
5. ☒ Claims 9-11, 13, 15, 21-24, 26, 35, 36 are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☒ The corrected or substitute drawings have been received on 16 July 2003. Under 37 C.F.R. 1.84 these drawings are ☒ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☒ The proposed additional or substitute sheet(s) of drawings, filed on 16 July 2003 has (have) been ☒ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 July 2003 has been entered.

The disclosure is objected to because of the following informalities: In the replacement paragraph to page 20, line 23, note that for each instance of reference labels with "a...n" designations, note that those designations should be amended at least to be consistent with the labeling in figs. 4, 4-1, 4a, 4b, 4c. For example, beam tunnel "156 ..." includes labels "156a" & "156e" in fig. 4 while labels "156a, 156b, ..., 156h" are labeled in fig. 4a. Clarification is needed. Note that at numerous occurrences through out the specification, reference labels (e.g. 102, 106, etc) do not appear consistent with the labeling in certain drawing figures (i.e. 102a, ...; 106a ..., etc). Clarification is needed. Note that in the replacement paragraph to page 23, line 19, 17<sup>th</sup> line therein, note that "iron" should be rewritten as --material (i.e. iron)--. In the replacement paragraph to page 25, line 7 & 8<sup>th</sup> line therein, note that "emitting surface 101 of cathode 102" is vague in meaning and needs clarification. In the replacement paragraph to page 16, line 14, second & third lines therein, note that --materials-- should follow each occurrence of "iron". In the replacement paragraph to page 26, line 17, note that "coil 232 (shown in figure 7) or permanent magnet 232 (shown in figure 8)" is vague in meaning and needs clarification. Appropriate correction is required.

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Claims 27-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 27, last paragraph, note that it is unclear where or how "additional magnetic field correctors" are operative associated with the remaining structure of the "magnetic circuit".

The following changes to the claims have been suggested by the examiner to improve the form of the claims in a non-limiting manner, and should be adopted by applicants':

In claim 1, third paragraph, third line therein, note that --a respective-- should precede "one" for clarity of description; last paragraph, third line therein, note that --each-- should precede "said cathode" for clarity.

In claims 1, fourth paragraph; claim 8, third paragraph: note that --respective-- should precede each occurrence of "cathode", "anode" & "focus electrode" for a proper characterization.

In claim 8, third paragraph, penultimate line therein, note that --a corresponding-- should precede "one" for a proper characterization.

In claim 15, line 2, note that --single-- should precede "coil" for consistency of description

In claim 21, lines 3, 7; claim 24, line 4: note that --one or more-- should precede each occurrence of "field corrector" for consistency of description.

In claim 22, note that "smaller" should be rewritten as --first-- for consistency of description.

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In claims 27, 37, second paragraph of each claim, fifth line therein, note that --respective-- should precede "thermionic" for a proper characterization.

In claim 28, line 3, note that --part-- should follow "diameter" for a proper characterization

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 8, 12, 14, 25/8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mourier in view of either Nevins, Jr. (all of record).

Mourier comprises a magnetic focusing arrangement suitable for use in multi-beam electron devices (e.g. multi-beam Klystron) comprising two disks (20, 22) having apertures (A, D, A', D') there through for the passage of plural electron beams (10). A magnetic structure (24) provides for primary focusing of the electron beam (10) in the region between plates (20, 22). Because of electron drift between the plates (20, 22) as shown in Fig. 1, an auxiliary magnetic correcting structure (30) including current carrying coils (36, 38) is provided to correction due to radial electron drift through use a correction magnetic field. Alternative magnetic correcting structure (30) may comprise a ferromagnetic part (48) such as iron as depicted in Fig.6. Note that as a consequence of the radial drift correction, the resultant magnetic field will be perpendicular to the emitting surface of the electron gun. Mourier, thus differs from the claimed invention in that the specific structure of the claimed multi-beam device is not disclosed therein.

Nevins, Jr. discloses a multi-beam electron device having the specific structure as claimed, including a cathode with an electron-emitting surface, an anode, and focusing electrode.

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Accordingly, it would have been obvious in view of the references, taken as a whole, to have modified the multi-beam electron device of Mourier with the multi-beam electron device of Nevins, Jr. Such a modification would have been considered obvious since the generic nature of the multi-beam electron device of Mourier would have suggested that any equivalent multi-beam electron device (such as in Nevins, Jr) would have been usable therewith, thereby suggesting the obviousness of such a modification. Furthermore, as an obvious consequence of such a modification, the resultant multi-beam device would have functioned as an oscillator, as taught by Nevins Jr.

Applicant's arguments filed 16 July 2003 have been fully considered but they are not persuasive.

Applicants' have argued that the Mourier reference fails to disclose a magnetic field corrector, which is located "near" the cathode. It is further argued that Mourier the magnetic field corrector works over the entire extent of the beam (Fig. 3), in the middle of the beam extent (figs. 5, 6) or a combination thereof (fig. 7) as contrast with the inventive magnetic field corrector, which works near the face of the cathodes.

It should be noted that the limitations recited in amended claim 8 while specifically limiting the magnetic field corrector to be "near the cathodes" does not preclude rejection by the above combination. Note that "near" is a relative term, and without limiting boundaries of what is encompassed by "near", it is the examiners contention that the combination does indeed show a magnetic field corrector "near" the cathode. For example, consider magnetic field corrector (38) in Fig. 4 of Mourier, which is disposed at a location adjacent plate (20), where such a plate (20) would be considered "near" the cathode (32) of Mourier. Therefore, at least the magnetic

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field correcting location in fig. 4 of Mourier would have met the claimed limitations. Moreover, note that the magnetic field corrector is not limited only to a location "near" the cathode and thus does not exclude embodiments where the magnetic field corrector is "near" the cathode as well as away from the cathode. Applicants' should note the contrast between the broader term "near" with the narrower limitation "adjacent" as recited in claim 1, which was determined to patentable distinguish over the above rejection.


Claims 27-34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 9-11, 13, 15, 21-24, 26, 35, 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-7; 37 are allowable over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benny Lee whose telephone number is 571 272 1764.

B. Lee

  
**BENNY T. LEE**  
**PRIMARY EXAMINER**  
**ART UNIT 2817**